# SELECTMEN'S CLIMATE ACTION COMMITTEE REPORT TO TOWN MEETING FALL 2012

#### I. INTRODUCTION

The Selectmenøs Climate Action Committee (CAC) was established in 2008 by the Board of Selectmen, in conjunction with a Resolution passed by Town Meeting that May (Appendix 1). The CAC has fifteen members: twelve representatives of various boards and commissions and three citizens appointed by the Selectmen (Appendix 2). In November 2009, the committee released its first Report to Town Meeting, informing the town on the committeeø work and progress. The committee continues to provide Town Meeting with such reports annually. This yearøs report builds upon the content of previous yearsø reports, presenting a summary of the committeeøs activities over the past year and identifying new goals and priorities.

The CAC held its first meeting on November 6, 2008, and has met monthly since then. The committee organizes itself into working subcommittees when needed, as they evolve and change as projects and goals arise and are completed.

The charge of the CAC is as follows:

õThe responsibilities of the committee shall include:

- 1. To recommend programs that reduce the net production of greenhouse gases in Brookline, such as energy efficiency measures, green energy sources, and additional greenspace;
- 2. To monitor, measure, and assess efforts of the Town to reduce net greenhouse gas emissions:
- 3. To monitor promising relevant programs in other municipalities;
- 4. To monitor relevant technological developments;
- 5. To serve as liaison between the Town and the public with regard to information and programs related to reducing net production of greenhouse gases;
- 6. To report annually to the Annual Town Meeting and to report from time to time to the Board of Selectmen, the Town Administrator, and the public; and
- 7. Such other responsibilities as may be determined from time to time by the Board of Selectmen.ö

#### II. ACCOMPLISHMENTS

#### Improving Residential Energy Efficiency through Green Homes Brookline

• Outreach Success: With the partnership support of Climate Action Brookline and energy services company Next Step Living, the CAC and the Department of Planning & Community Development saw a substantial increase in the number of Brookline homes having energy assessments and being weatherized through the Green Homes Brookline program. As of 9/30/2012, 1,224 energy assessments and 258 weatherizations (up from 383 assessments and 24 weatherizations as of 9/30/2011) of Brookline homes have been scheduled or completed, surpassing the programøs original goal of reaching at least 1,000 homes. This increase can be attributed to both a significant outreach push by Climate Action Brookline and Next Step Living, as

- well as the establishment of a deadline for fund availability for Green Homes Brookline.
- Program Transition: Staff is working on transitioning the program from one that was funded by the federal Energy Efficiency and Conservation Block Grant (EECBG) program, which expired at the end of September 2012, to one that markets the Mass Save program with no additional subsidy, at least until other funds can be located and secured. Green Homes Brookline encourages all Brookline residents, regardless of housing tenure, to obtain no-cost energy assessments of their homes and, when there is opportunity, weatherize those homes. When EECBG funds were available, energy improvements for households earning between 60% and 120% of area median income were partially subsidized.

## Completion of the EECBG Program for the Town of Brookline

• The Townøs Energy Efficiency and Conservation Block Grant (EECBG) program was completed on time and under budget. The grant, which funded several different programs (Appendix 3), including Green Homes Brookline, had a final end date of September 27, 2012. The town was successful in spending nearly all of the \$494,400 in grant funds, excepting \$5,407, which was left over after a portion of the LED streetlight replacement project came in below the originally estimated costs. Town staff continues to comply with the reporting requirements to the appropriate federal entities.

#### Finalizing a New Local Climate Action Plan

- The committee continued the development and finalization of a new Climate Action Plan, available for public viewing and comment in a wiki form on www.brooklinema.gov/cap.
- Hosted a public hearing in April 2012 to gather input from the community regarding the plangs proposed actions.
- Voted to adopt the final Climate Action Plan in September 2012, with plans to bring the final product to the Board of Selectmen for formal adoption late 2012. Despite voting on a õfinalö Climate Action Plan, the committee emphasizes that the planøs format as a wiki is meant to underscore the plan as a õliving documentö that can be edited at will and as needs arise.
- Transition from Plan Development to Plan Implementation: The committee will now work on those Climate Action Plan actions that have associated liaisons to provide implementation support and perform necessary research and analysis to achieve results. The committee expects to facilitate communication between interested residents and groups on actions listed in the plan, as well as seek out new participants interested in working on climate action activities.

#### **Engaging Residents through Second Annual Climate Week**

- The second annual Climate Week was held on the fourth week of January this year. A number of events were held jointly, and the event was co-sponsored by the CAC, CAB, Brookline School Committee, Brookline Department of Public Health, and Brookline Adult and Community Education. Numerous businesses and town departments collaborated in creating special events, including a very popular Winter Market. All events helped to inform and encourage climate-friendly behavior.
- Planning for the third annual Climate Week, to be held from January 26, 2013, to February 3, 2013, has already begun.

### **Maintaining Green Community Status**

• In cooperation with town staff, the Town attained õGreen Communityö status in 2011, which affirms and publicizes the commitment of the town to sustainability, and qualifies the town to apply for additional funding opportunities for renewable energy or energy efficiency projects. This designation must be maintained by continuing to satisfy the Green Community requirements (Appendix 4), including ensuring the townow fuel efficient vehicle purchasing policy is followed and that progress is made on the adopted Municipal Energy Reduction Plan.

#### **Strengthening Community Partnerships**

- Continued and strengthened a close working relationship with Climate Action Brookline (CAB, formerly known as CCAB). Joint initiatives include Green Homes Brookline and Climate Week.
- Served in an advisory capacity to the Department of Planning and Community
  Development and the Board of Selectmen regarding the management of EECBG
  funds, Green Communities milestones and designation, the Green Homes Brookline
  program, and other related projects.
- Further developed the partnership between CAB, CAC, and the Public Health Department. This coalition collaborates to plan events meant to raise awareness of the parallels between healthy behaviors (such as walking, biking, and eating a locally produced, plant-based diet) and reducing greenhouse gas emissions.

#### III. WORK PLAN

The CAC has identified the following tasks for the coming year:

1. Bring the finalized Climate Action Plan to the Board of Selectmen for formal adoption, and provide support to groups and residents working on activities listed in the new plan. As implementation of the plan proceeds, refine greenhouse gas reduction estimates. The plan identifies clear, achievable actions to reduce the townown overall greenhouse gas emissions. These actions provide a road map and policy framework for the committee as it moves forward.

- 2. Collaborate with CAB on community education and engagement activities to promote lifestyle changes that lead to greenhouse gas reduction.
- 3. Monitor and support the Green Homes Brookline Program, as it transitions from a program with federal funding to one without, as well as work to expand its focus to include large condominium and apartment buildings.
- 4. Collaborate with CAB to organize and run Climate Week, to be held January 26, 2013, to February 3, 2013, as well as other events that are part of CAB¢s public education campaign when needed.
- 5. Provide support for the townøs efforts to implement the Green Communities Act criteria and objectives, including the execution of the municipal energy reduction plan, and encouraging the pursuit of renewable energy generation alternatives.
- 6. Collect and refine data on town energy use and GHG emissions, by sector and source.

#### IV. APPENDICES

- 1. Town Meeting Resolution (Article 29, May 27, 2008, Annual Town Meeting) VOTED: That the Selectmen establish a committee, the purpose of which is to reduce the total emission of greenhouse gases by the Brookline community, including Town government. The name of the committee shall be the Selectmen¢s Climate Action Committee. The responsibilities of the committee shall include:
  - 1. To recommend programs that reduce the net production of greenhouse gases in Brookline, such as energy efficiency measures, green energy sources, and additional greenspace;
  - 2. To monitor, measure, and assess efforts of the Town to reduce net greenhouse gas emissions;
  - 3. To monitor promising relevant programs in other municipalities;
  - 4. To monitor relevant technological developments;
  - 5. To serve as liaison between the Town and the public with regard to information and programs related to reducing net production of greenhouse gases;
  - 6. To report annually to the Annual Town Meeting and to report from time to time to the Board of Selectmen, the Town Administrator, and the public; and
  - 7. Such other responsibilities as may be determined from time to time by the Board of Selectmen.

The committee shall consist of the following members appointed by the Board of Selectmen:

- 1. A member of the Board of Selectmen
- 2. The Chair of the Advisory Committee or her/his nominee
- 3. The Chair of the School Committee or her/his nominee
- 4. The Chair of the Transportation Board or her/his nominee
- 5. The Chair of the Conservation Commission, or her/his nominee
- 6. The Chair of the Planning Board, or her/his nominee
- 7. The Chair of the Building Commission, or her/his nominee
- 8. The Chair of the Advisory Council on Public Health, or her/his nominee
- 9. A Co-Chair of Climate Action Brookline, or their nominee
- 10. The President of the Brookline GreenSpace Alliance, or her/his nominee
- 11. A Co-Chair of the Brookline Neighborhood Alliance, or their nominee
- 12. The President of the Brookline Chamber of Commerce, or her/his nominee
- 13. Three members at large with special consideration given to people with the following skills:

ÉRelevant scientific and/or academic expertise

ÉRelevant engineering expertise

ÉKnowledge of and/or experience with green businesses

ÉRelevant public health expertise.

All members shall serve three-year terms, which may be renewed. Initial appointments shall be for terms of one, two, and three years so that terms will

expire at staggered intervals. No member shall be disqualified because she or he is not a resident of the Town. The committee shall have two co-chairpersons, one of whom shall be the selectman member and one of whom shall be elected annually by the committee. The staffing of the committee shall be determined by the Selectmen and the Town Administrator. The committee shall be established by November 30, 2008, and shall be evaluated by the Board of Selectmen before December 31, 2011 to determine whether it should be made permanent or dissolved.

#### 2. CAC Membership

Mary Dewart Brookline GreenSpace Alliance

Jon Cody Haines at-large

Alan Leviton Climate Action Brookline
Werner Lohe Conservation Commission
Patricia Maher Department of Public Health
Linda Pehlke Brookline Neighborhood Alliance

Ali Tali Transportation Board
Ben Chang School Committee
Dan Bennett Building Commission

Jim Solomon at-large

Mark Zarrillo Planning Board
Don Weitzman, Co-chair Advisory Board
Jesse Mermell, Co-chair Board of Selectmen

Lara Curtis Hayes, Staff Department of Planning and Community

Development

(There are currently two vacancies, one for the Chamber of Commerce designee and another at-large vacancy.)

### 3. EECBG Program

The Department of Energy approved the Townøs proposal to use Energy Efficiency and Conservation Block Grant (EECBG) monies on the following projects:

- Install energy efficiency improvements in several municipal buildings;
- Three LED street light pilot projects, two in residential neighborhoods and one in Brookline Village along Harvard Street;
- Establish Green Homes Brookline, a residential energy efficiency program to provide energy assessments and improvements for Brookline homes;
- Provide supporting funds to CAB for a public education campaign.

This grant ended September 27, 2012, at which point all monies, except for \$5,407 leftover as the last LED streetlight project came in under budget, were expended.

#### 4. Green Communities Act

To qualify as a Green Community, a municipality must meet all five of the following criteria:

- Provide for the as-of-right siting of renewable or alternative energy generating facilities, renewable or alternative energy research and development (R&D) facilities, or renewable or alternative energy manufacturing facilities in designated locations.
- Adopt an expedited application and permitting process under which these
  energy facilities may be sited within the municipality and which shall not
  exceed 1 year from the date of initial application to the date of final approval.
- Establish an energy use baseline inventory for municipal buildings, vehicles, street and traffic lighting, and put in place a comprehensive program designed to reduce this baseline by 20 percent within 5 years of initial participation in the program.
- Purchase only fuel-efficient vehicles for municipal use whenever such vehicles are commercially available and practicable.
- Require all new residential construction over 3,000 square feet and all new
  commercial and industrial real estate construction to minimize, to the extent
  feasible, the life-cycle cost of the facility by utilizing energy efficiency, water
  conservation and other renewable or alternative energy technologies.

#### 5. Town of Brookline Greenhouse Gas Inventory Overview

#### History and Purpose

In May 2000, the Town of Brookline elected to participate in the Cities for Climate Protection Campaign, a program of the International Council of Local Environmental Initiatives (ICLEI). The Cities for Climate Protection Campaign follows a ÷Five Milestoneøprocess:

- Milestone One: Conduct a Greenhouse Gas Emissions Inventory and Report
- Milestone Two: Set a Greenhouse Gas Emissions Reduction Target
- Milestone Three: Develop a Local Climate Action Plan
- Milestone Four: Implement the Local Climate Action Plan
- Milestone Five: Monitor Emissions Reductions

The Town completed the first three milestones in the ICLEI program, publishing a greenhouse gas inventory in August 2000 and a Greenhouse Gas Emissions Reduction Target and Climate Action Plan in February 2002.

The August 2000 Greenhouse Gas Inventory reported emissions for calendar years 1995 and 1998. The following summary updates those initial findings to include information for calendar years 2003 and 2008. The goal of the Greenhouse Gas Inventory is to guide Brookline's process of writing and implementing a plan to reduce the emissions contributing to climate change.

# Brookline's Community Greenhouse Gas Emissions Totaled 520,000 Tons CO<sub>2</sub> for CY2008

Brookline community greenhouse gas emissions (Table 1 and Figure 1) have been steady at roughly 520,000 tons of CO<sub>2</sub> per year for, at least, the five year period from 2003 through 2008. Community emissions comprise the residential, commercial, and government sectors.

Brookline 2008 community greenhouse gas emissions were about eight percent below the annual emissions rate of 560,000 tons previously reported for 1995 (August 2000 Greenhouse Gas Inventory Report). Adjusting for possible inconsistencies in electricity and natural gas usage and vehicle emissions described below, Brookline 1995 greenhouse gas emissions may have been as low as 515,000 tons per year. In either case, Brookline has done better than the United States, as a whole. Greenhouse gas emissions increased about ten percent nationally from 1995 through 2007.

Greenhouse gas emissions from Brookline government operations (Figure 2) for 2008 are relatively unchanged from those previously reported for 1995 (August 2000 Greenhouse Gas Inventory Report). Government operations are responsible for about three percent of Brookline total community emissions.

Emissions from MBTA trolleys and buses were not included in this analysis. Emissions from these sources are likely about one percent of the reported total community emissions, based on the August 2000 Greenhouse Gas Inventory Report.

# Brookline's Climate Action Plan Base Year Should be Changed from 1995 to 2003

The ICLEI Local Government Protocol (September 2008) states: õIt is good practice to compile an emissions inventory for the earliest year for which complete and accurate data can be gathered. The base year for the UNFCCC and subsequent Kyoto Protocol is calendar year 1990. However, required data from 1990 is often prohibitively difficult or impossible to collect. Given that the priority for a greenhouse gas management program should be on practical results, it is more important that the base year be documented with enough detail to provide a good basis for local action planning than it is that all local governments produce an inventory with the same, stipulated base year.ö

Graphs of electricity usage (Figure 3) and natural gas usage (Figure 4) from 1995 through 2008 indicate anomalies in trends for both utilities. Values for 1995 and 1998 were reported in the August 2000 Greenhouse Gas Inventory report based on information provided by Boston Edison and Boston Gas. Usage information for 2002 through 2008 was obtained from NSTAR and National Grid. The significant drop in usage of gas and electricity from 1998 to 2002 is inconsistent with both population growth in Brookline and national trends in residential energy consumption during that period.

CO<sub>2</sub> emissions from vehicles traveling in Brookline may also have been overstated, based on a November 2009 report from the United States Environmental Protection Agency. Vehicle emission factors generated for 1995 by the ICLEI software (CACP 2009) were based on projections that predated the recent EPA report.

Due to the above inconsistencies, it is recommended that 2003 be used as the base year for Brooklineøs Greenhouse Gas Reduction Target and Climate Action Plan.

## Brookline's Residential Carbon Footprint is Much Lower than the U.S. Average

In 2008, Brooklineøs average residential carbon footprint was about 31,000 pounds of CO<sub>2</sub> per year. The average US household had a carbon footprint of 46,000 pounds of CO<sub>2</sub> per year, according to data from the US Energy Information Agencyøs (EIA) 2005 Residential Energy Consumption Survey and a household vehicle use survey for 2009 published by the National Highway Transportation Survey (NHTS). In both cases, CO<sub>2</sub> emissions from personal air travel were not included.

Brooklines average commercial carbon footprint was 162,000 pounds of CO<sub>2</sub> per year in 2008, excluding air travel.

Table 1	Greenhouse Gas Emissions CO₂e, Tons/Year				
	1995	200	3 2	800	
Electricity	140,920			7,125	
Natural Gas	120,369	•		6,643	
Heating Oil	126,267	,		3,678	
Cars and Truck	,	,		8,992	
Solid Waste	21,129	•		,264	
Total	559,999	520,2	295 51	7,702	
Table 2	2008 GHG Emissions By Sector				
	CO₂e, Tons/Year				
	Residential	Commercial	Municipal	Total	
Electricity	75,688	54,106	7,331	137,125	
Natural Gas	89,812	34,474	2,357	126,643	
Heating Oil	81,070	19,980	2,629	103,679	
Cars and Trucks				128,992	
Solid Waste	14,176	6,998	3 90	21,264	
Total				517,702	
Table 3		Greenhouse Gas Sources			
		1995	2003	2008	
Electricity	kwh	311,702,637	288,397,640		
Natural Gas	Therms	20,445,394	17,702,807	21,511,045	
Heating Oil	Gallons	11,283,499	10,041,279	9,264,891	
Cars and Trucks	Miles	232,094,937	242,992,126	210,333,390	
Solid Waste	Tons	21,000	21,000	21,135	

 Table 4
 Brookline's Residential Carbon Footprint - 2008

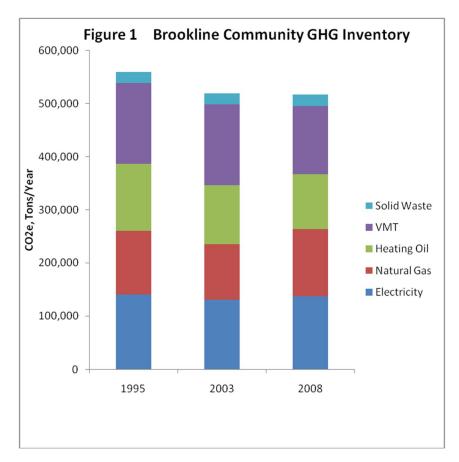
	CO₂e, Tons/Year
Electricity	75,688
Natural Gas	89,812
Heating Oil	81,071
Gasoline/Diesel	139,156
Solid Waste	14,176
Total	399,901
Number of Households	25,573
Pounds CO <sub>2</sub> /Household/Year	31,275

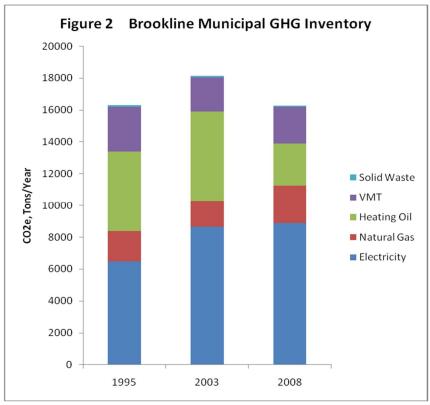
# Table 5 Brookline's Commercial Carbon Footprint - 2008

Electricity Natural Gas Heating Oil Gasoline/Diesel Solid Waste	CO₂e, Tons/Year 52,536 34,474 19,980 7,576 6,998
	121,564
Number of Businesses	1,500
Pounds CO <sub>2</sub> /Business/Year	162,086

# Table 6 Brookline's Municipal Carbon Footprint - 2008

	CO₂e, Tons/Year
Electricity	8,901
Natural Gas	2,357
Heating Oil	2,629
Gasoline/Diesel	2,305
Solid Waste	90
	16,282





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